40. The apparatus of claim 39 including a polychrometer having an entrance slit positioned to receive energy reflected from said mirror through said exit port, and means at said exit port for variably focusing exiting energy upon said polychrometer.

41. The apparatus of claim 40 wherein said polychrometer includes an energy dispersing grating, a spectrum exit port, and means for directing energy from said grating through said spectrum exit port, and further including an energy-sensitive surface positioned to receive energy from said spectrum exit port, means for scanning said sensitive surface to generate electrical signals indicative of intensity of received energy at selected points of said surface, a plurality of storage devices, addressing means for storing said signals in different one of said storage devices, drive means for sequentially pivoting said support and mirror to first and second positions for respectively reflecting through said cavity exit port energy from said first target and from said second target, and means for synchronizing said addressing means with said drive means so that signals stored in one of said devices represent energy reflected from said first target and signals stores in another of said devices represent energy reflected from said second target.

42. In a radiant energy measuring system, the method of compensating for noise including stray energy entering the system and adversely affecting the measurement, said method comprising the steps of

a. illuminating a target and a black body from an energy source,

b. employing said system to measure enery received when the system is directed at said illuminated target,

c. employing said system to measure energy received when the system is directed at said illuminated black body, and

d. differentially combining measurements of energy received in steps (b) and (c).

43. The method of claim 42 wherein each of the measurements of steps (b) and (c) include the making of a plurality of measurements at different wavelengths within a band of wavelengths.

44. The method of making measurements for color comprising the steps of differentially comparing light received from a color sample, over its spectrum, with light received from each of a white standard and a black body over corresponding spectra.

45. The method of claim 43 wherein said source is a polychromatic lamp, and wherein said measuring system makes color measurements within said band.

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